MATERIAL AND METHODS:

- This study will be conducted in the department of Biotechnology, FET, Rama University Kanpur.
- Samples will be collected from the plants grown at Rama University campus.
- All the required reagents would be purchased from the standard vendors.

METHODOLOGY:

The following procedure would be followed to achieve aim of this study.

- Extraction of antioxidant enzyme from the leaves of this plant in vitro conditions by using buffer, PVPP (polyvinyl pyrophosphate) etc.
- Assessment of enzyme activity by the use of spectrophotometric based enzyme assay (14).
- Purification of enzymes with use of chromatography techniques.
- Characterization of above mentioned antioxidant enzymes from the chilli plant by knowing the pH, temperature and time optima also knowing the substrate optima, effect of inhibitors and Km values for the substrates.

The DPPH method: [13] DPPH (2, 2-diphenyl-1picrylhydrazyl) is a stable free radical, due to the delocalization of the spare electron on the whole molecule. Thus, DPPH does not dimerize, as happens with most free radicals. The delocalization on the DPPH molecule determines the occurrence of a purple colour, with an absorption band with a maximum around 520nm. When DPPH reacts with a hydrogen donor, the reduced (molecular) form (DPPH) is generated, accompanied by the disappearance of the violet colour. So, the absorbance diminution depends linearly on the antioxidant concentration. Trolox can be used as standard antioxidant. The spectrophotometric method with DPPH will be applied to antioxidant capacity determination in chilli extracts, roots, leaves, fruits.